REMARKS

Claims 107-147 and 165-181 are pending in the application.

Claims 107-147 and 165-181 have been rejected.

Claims 109, 133 and 167 have been amended. These amendments are included as response to the Objections stated in the Office Action and are not presented in response to rejections raised by cited art, unless specifically referenced in the discussion below. Applicant further submits that these amendments are presented merely for clarification and do not narrow the scope of the claims.

Rejection of Claims Under 35 U.S.C. §112

Claims 107, 131, 148, 125, 145, 165 and 179 and the intervening claims stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse this rejection.

Claims 107, 131 and 148: The Office Action suggests that the limitations of independent Claims 107, 131 and 148, as previously amended, do not have support in the written description of the original application as filed. Applicants respectfully disagree and submit that each and every limitation of these claims does indeed have support in the original specification of the Application.

The limitations of these claims, as represented by the limitation of Claim 107, are presented below along with examples of supporting description in the original application.

1. **Providing A Plurality of Sockets.** The original Application discloses that "a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password." Application, p.12:1-3. This list of sockets corresponds to the claimed plurality of sockets. The

Application provides broad scope so that it is not limited to sockets as programmatic constructs associated with connections. *See* Application, p.11:24-27 ("While the networking concept of a socket is employed in describing relay program 210, it will be apparent to one of skill in the art that the network connections referred to herein will be cast in terms of other programmatic constructs, and in fact, the appropriate construct will depend on the protocol being supported by the given embodiment of the present invention.").

2. **Each Socket has an Associated Connection.** The Application discloses that "[t]he exemplary process of Fig. 4 begins with the creation of a socket (step 400) for use by an in-bound connection." Application, p.11:22-24. Further, the Application states that network connections are cast in terms of programmatic constructs such as sockets. *See* Application, p.11:24-27. The Application further discloses that "[u]pon the receipt of an in-bound connection requisition, (step 410), a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420)." Application, p. 12:1-3. The Application further states that "[i]t will be noted that the process illustrated in Fig. 4 is one that uses passwords for each connection in order to provide enhanced security. Although passwords need not be employed, some method of determining which in-bound connections are to be coupled to other in-bound connections should be supported by relay program 210." Application, p.12:3-7 (emphasis added). These statements establish that each socket in the list of open sockets maintained by the relay program has an associated connection. This association of sockets with connections is reinforced by the Application's statement that "if the password of the attempted connection matches one or more of the currently open sockets, the endpoints are connected by relay program 210 (step 480). Once connected, relay program 210 relays data from one endpoint to the other endpoint.... This relaying of data continues until one (or both) of the connections either fails or is disconnected...." *See* Application, p.12:20-25 (emphasis added).

3. **Each Socket has.... an Associated Security Token.** The Application describes that each open socket "maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420)." Application, p.12:2-3 (emphasis added). The Application further discloses that it is not limited to the use of passwords and that other security tokens may be used. *See* Application, p.12:5-7 ("although passwords need not be employed, some method of determining which end-bound connections are to be coupled to other in-bound connections should be supported by relay program 210.").

4. **The Associated Security Token is Provided by the Associated Connection.** The Application discloses that "[u]pon the receipt of an in-bound connection requisition (step 410), a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420). It will be noted that the process illustrated in Fig. 4 is one that uses passwords for each connection in order to provide enhanced security." Application, p.12:1-5 (emphasis added). The Application further describes other types of security tokens that are associated with connections such as network addresses and verification strings. *See* Application, p.12:7-11. The Application further describes the password as being provided (Application, p.12:12) and refers to the password as "the password of the attempted connection" (Application, p.12:20). While this latter disclosure refers to the attempted connection, the Application also describes how the open socket list can be built by including unmatched attempted connections in the list of open sockets as a listening connection. *See* Application, p.12:17-19 ("If the attempted connection is to be configured as a listening connection, the attempted connection is put on the list of currently opened sockets (step 470).").

5. **Receiving A First Connection and A First Security Token.** The Application describes that "[u]pon the receipt of an in-bound connection requisition (step 410), a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420). It will be noted that the process illustrated in Fig. 4 is one that uses passwords for each connection in order to provide enhanced security." Application, p.12:1-5 (emphasis added). This statement establishes that an incoming connection has an associated password, or security token, that is compared to passwords associated with currently open sockets. The Application also describes the password as "the password of the attempted connection" (Application, p.12:20) and that the password is provided (Application, p.12:12).

6. **Creating A Socket Associated with the First Connection.** The Application discloses that "[t]he exemplary process of Fig. 4 begins with the creation of a socket (step 400) for use by an in-bound connection." Application, p.11:22-24.

7. **Wherein the First Connection has Associated the First Security Token.** Applicants refer the Examiner to the support found in the Specification for "receiving a first connection and a first security token" discussed above. The sections of the Application referenced therein provides support for the present claim limitation as well.

8. **Comparing the First Security Token with the Associated Security Tokens.** The Application discloses that "a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420)." Application, p.12:1-3. The Application further discloses that "[a]lthough passwords need not be employed, some method of determining which in-bound connections are to be coupled to other in-bound connections should be supported by relay program 210." Application, p.12:5-7. These statements establish that a security token (e.g., a password) associated with an inbound connection is compared to security tokens associated with open sockets.

9. **If None of the Associated Security Tokens Match the First Security Token, Including the Socket in the Plurality of Sockets.** As stated above, the relay program performs a search in which a password associated with an in-bound connection is compared with passwords of open sockets associated with other in-bound connections. "If the password provided does not match any of the current open sockets (step 430), relay program 210 makes the determination as to whether the attempted connection should be configured as a listening connection (step 440)." Application, p.12:12-14. "If the attempted connection is to be configured as a listening connection, the attempted connection is put on the list of currently open sockets (step 470)." Application, p.12:17-19. The Application further discloses that an attempted connection is associated with its own socket. *See* Application, p.11:22-24 ("the exemplary process of Fig. 4 begins with the creation of a socket (step 400) for use by an in-bound connection."). Thus, the socket associated with the in-bound connection is disclosed to be included with the plurality of open sockets.

Applicants respectfully submit that the above enumerated list establishes that the limitations of independent Claims 107, 131 and 148 all find support within the original Application filed. The Office Action suggests "at the time the invention was made, Application was not concerned of having the invention implemented in a networking concept of socket as disclosed in the claims." Office Action, p. 4. The above-described relationships between the Application disclosure and the pending claims show that the Applicants did indeed have possession of the pending claimed limitations. The Office Action fails to present any rationale for why the clear wording of the Application does

not support the clear wording of the pending claims, as shown above. Therefore, Applicants respectfully request the Examiner's reconsideration and withdrawal of the rejections of independent Claims 107, 131 and 148 under 35 U.S.C. §112.

Claims 125, 145, 165, and 179: Dependent Claims 125, 145, 165, and 179 all contain limitations that are similar to those described above. These limitations also find support within the patent Specification section as mentioned above.

1. **The Relay Program Compares the First Security Token with One or More Security Tokens Associated with One or More Corresponding Connections.** The Application discloses "[u]pon the receipt of an in-bound connection requisition (step 410), a list of currently open sockets maintained by relay program 210 is searched in an effort to locate an open socket having a matching password (step 420). It will be noted that that process illustrated in Fig. 4 is one that uses passwords for each connection in order to provide enhanced security. Although passwords need not be employed, some method of determining which in-bound connections are to be coupled to other in-bound connections should be supported by relay program 210." Application, p.12:1-7. This passage establishes that the Application discloses comparing a first security token (e.g., a password) with one or more security tokens associated with one or more corresponding connections.

2. **If the First Security Token and A Security Token Associated with A Corresponding Connection Match, Coupling the Second Connection to the Connection Associated with A Corresponding Connection Match, Coupling the Second Connection to the Connection Associated with the Matching Security Token.** The Application discloses that "if the password of the attempted connection matches one or more of the currently open sockets, the endpoints are connected by relay program 210 (step 480). Once connected, relay program 210 relays data from one endpoint to the other endpoint (i.e., programs 135 and 140 of Fig. 2) (step 490)." Application, p.12:20-23. This passage of the Application discloses the coupling (or connecting) of the attempted connection with a connected associated with a socket having a matching password.

3. **If None of the Associated Security Tokens Match the First Security Token, Including the Second Connection with Said One or More Corresponding Connections.** The Application discloses that when "the password provided does not match any of

> the current open sockets (step 430), relay program 210 makes the determination as to whether the attempted connection should be configured as a listening connection (step 440). ...if the attempted connection is to be configured as a listening connection, the attempted connection is put on the list of currently open sockets (step 470)." Application, p.12:12-19. It has already been established that the Application relates sockets with in-bound connections to the relay program. *See* Application, pp. 11:22-28, 12:1-7, 12:20-25 (each describing the relationship of sockets with connections).

Applicants respectfully submit that the above comparison of the claim language with the disclosure of the original Application establishes that the Applicants had in their possession the invention that is claimed in the pending claims. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejections to these claims under 35 U.S.C. §112.

Rejection of Claims Under 35 U.S.C. §102

Claims 107-127 and 131-148 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U. S. Patent 5,941,988 issued to Bhagwat *et al.* ("Bhagwat"). Applicants respectfully traverse this rejection.

Independent Claims 107, 131 and 164: Applicants respectfully submit that Bhagwat does not disclose all of the pending limitations of independent Claims 107, 131 and 164 alone or in combination with the cited "extrinsic evidence" of the SOCKS protocol version 5, cited by the Office Action. In addition to the discussion previously presented in response to prior Office Actions, which is incorporated herein by reference, Applicants present the following discussion.

The Office Action suggests that Bhagwat "discloses creating a socket associated with the first connection (column 7, lines 13-26) and an authentication test that meets the recitation of comparing the first security token with the associated security tokens

(column 7, lines 13-26)." Office Action, p.7. The Office Action further states that "[i]t is inherent that the SOCKS protocol version 5 establishes connection by using strong authentication including user name/password authentication to determine validity of the connection request by comparing." *Id.* Applicants respectfully submit that the cited section of Bhagwat fails to disclose the claim limitation of "comparing the first security token with the associated security tokens" suggested by the Office Action.

The cited section of Bhagwat relates, in part, to a first connection to a proxy server exchanging authentication to establish a connection between a client and the proxy server at a socket. *See* Bhagwat 7:17-24 ("When the acknowledgement for SYN & ACK arrives from the client, the connection between the client and the proxy is established at state 53. Over the newly established connection, using SOCKS version 4 or 5 protocol, the client and the proxy exchange authentication information. If the client fails the authentication test, socked A returns to LISTEN state 51, resetting the connection between the client and the proxy.")(emphasis added). At no point in the cited disclosure is there a description of comparing a first security token with associated other security tokens, wherein those associated security tokens are associated with other sockets, as claimed. In fact, Bhagwat teaches away from this by disclosing that the proxy can be directed to either initialize a second connection to an address specified in a SOCKS connect message (Bhagwat 7:28-31) or to request the proxy to start accepting connections from a remote server in response to a SOCKS bind message (Bhagwat 7:31-33). "In both cases, the proxy opens a new socket, B, and, using TCP's standard three-way handshake protocol, establishes a new connection between the proxy and the remote server." Bhagwat 7:33-36. Further, "[i]n the case of a SOCKS bind message, socket A remains in the ESTABLISHED state and socket B at the proxy is in the LISTEN state, as indicated

by state 56." Bhagwat 7:39-42. Any subsequent authentication that may occur at the disclosed socket B is between a connection from the remote server to socket B at the proxy, and not a comparison of a security token associated with a socket (e.g., socket B) to security tokens associated with other sockets (e.g., socket A). This is because there is already an association that is made between socket A and socket B at the time of establishing socket A, as disclosed by Bhagwat. No authentication need pass between sockets A and B in Bhagwat.

Applicants further submit that Bhagwat fails to provide disclosure of the claim limitation "in response to said comparing, if none of the associated security tokens match the first security token, including the socket in the plurality of sockets." As an initial matter, since Bhagwat fails to provide disclosure of the comparison between the first security token and associated security tokens, Bhagwat cannot perform an act in response to said comparison. In addition, the only disclosure that Bhagwat provides for failure to authenticate the element suggested by the Office Action to correspond to the claimed security tokens is to reset the disclosed connection between the disclosed client and the disclosed proxy. *See* Bhagwat 7:22-24 ("If the client fails the authentication test, socket A returns to LISTEN state 51, resetting the connection between the client and the proxy."). Thus, Bhagwat fails to provide inclusion of the socket associated with the first connection with the plurality of sockets if authentication fails, as claimed.

For at least these reasons, Applicants respectfully submit that Bhagwat fails to provide disclosure of independent Claims 107, 131, and 165 even in the light of the referenced SOCKS protocol documents. Applicants therefore respectfully submit that independent Claims 107, 131 and 167, and all claims dependent therefrom, are in

condition for allowance and Applicant respectfully requests the Examiner to reconsider and withdraw the rejection to those claims under 35 U.S.C. §102.

Dependent Claims 125, 145 and 179: For reasons the same as those discussed above, Applicants also respectfully submit that dependent Claims 125, 145 and 179 are not disclosed by Bhagwat and therefore these clams, and any claims dependent therefrom, are in condition for allowance. Applicants therefore respectfully requests the Examiner's reconsideration and withdrawal of the rejections to these claims under 35 U.S.C. §102.

Independent Claims 120, 140 and 174: Independent Claims 120, 140, and 174 contain the following limitations:

- Creating a first connection to a first program;
- Receiving a first security token from that first program;
- Creating a second connection to a relay program;
- Providing the security token received from the first program to the relay program; and,
- Coupling the first connection to the second connection upon successful creating of the second connection.

See, e.g., Claim 120. The cited sections of Bhagwat do not contain disclosure of these limitations.

Bhagwat 3:63-4:8 discloses point-to-point TCP connections from a network address to a port. Bhagwat 5:5-40 discloses a scenario where a telnet client 11 opens a connection to a firewall proxy 12 and then the firewall proxy initiations a connection with a telnet server 13. Neither cited section provides disclosure where, following the terminology set forth in the cited section of Bhagwat, there is a creating of a first

connection to a first program (e.g., by Bhagwat's firewall proxy to Bhagwat's telnet client), then receiving a security token from the first program, creating a connection to a relay program (e.g., Bhagwat's Telnet server 13), and providing the security token to the relay program. Similarly, Bhagwat 7:26-44 does not disclose a method with the limitations of the above-referenced claims, providing only a reiteration of the above disclosure with additional detail. Since Bhagwat does not contain these limitations, it cannot anticipate these independent claims nor any claims which depend upon these independent claims (i.e., Claims 121-130, 141-147 and 175-181). Applicants therefore respectfully submit that these claims are in condition for allowance and respectfully request the Examiner's reconsideration and withdrawal of the rejection as to these claims under 35 U.S.C. §102.

For at least the reasons stated above, Applicants respectfully submit that the discussed claims, and all dependent upon them, are allowable over Bhagwat and are not anticipated under 35 U.S.C. §102.

Rejection of Claims Under 35 U.S.C. §103

Claims 128-130 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bhagwat in view of U. S. patent 6,104,716 issued to Chrichton *et al.* ("Chrichton"). Applicants respectfully traverse this rejection.

In order for a claim to be rendered invalid under 35 U.S.C. § 103, the subject matter of the claim as a whole would have to be obvious to a person of ordinary skill in the art at the time the invention was made. *See* 35 U.S.C. § 103(a). This requires: (1) the reference(s) must teach or suggest all of the claim limitations; (2) there must be some teaching, suggestion or motivation to combine references either in the references

themselves or in the knowledge of the art; and (3) there must be a reasonable expectation of success. *See* MPEP 2143; MPEP 2143.03; *In re Rouffet*, 149 F.3d 1350, 1355-56 (Fed. Cir. 1998).

For the reasons expressed in the section regarding 35 U.S.C. § 102, Bhagwat does not contain all the limitations of independent Claim 120 upon which Claims 128-130 are based. Further, the Office Action makes no argument that Crichton discloses the missing limitations of the independent claim.

For at least these reasons, and those expressed in previous responses, neither Bhagwat nor Crichton, alone or in combination, teach all of the limitations of dependent Claims 128-130. The burden is on the Examiner to support a case of obviousness, including whether the prior art references teach or suggest all of the claim limitations. *See* MPEP 706.02(j).

Applicants also respectfully submit that a person of ordinary skill in the art would not be motivated to combine Crichton with Bhagwat based upon the teachings of the references themselves or the knowledge of the art. Crichton and Bhagwat each describe methods of setting up proxy connections: Crichton through the disclosed Lightweight Secure Tunneling Protocol and Bhagwat through the disclosed TCP glue. The disclosures of the references do not indicate that these methods are compatible, nor does the Office Action make such an argument. Such teachings may be considered cumulative to a person of ordinary skill in the art. Cumulative teachings argue against a finding that references may be combined for obviousness.

For these reasons, Applicants respectfully submit that the Office Action fails to present a *prima facia* case of obviousness of dependent Claims 128-130, and all claims

dependent upon them, and that they are in condition for allowance. Applicants therefore request the Examiner's reconsideration of the rejections to those claims.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5090.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, COMMISSIONER FOR PATENTS, P. O. Box 1450, Alexandria, VA 22313-1450, on April 7, 2006.

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